HEAVY MINERALS

During site characterization, both the heavy mineral content and tonnage of sand were evaluated. The heavy mineral species in the –35 mesh to +325 mesh fraction of borehole samples to a depth of 40 feet consists of ilmenite, tan opaques, leucoxene, rutile, zircon/xenotime, monazite, staurolite and kyanite (Chem-Nuclear Systems, 1993, Table 2.7.1-10). The potential heavy minerals of economic interest is less than one percent of total heavy minerals recovered. Other minerals identified during this study included schorl and lesser amounts of goethite, hematite, muscovite, [add comma] and magnetite.

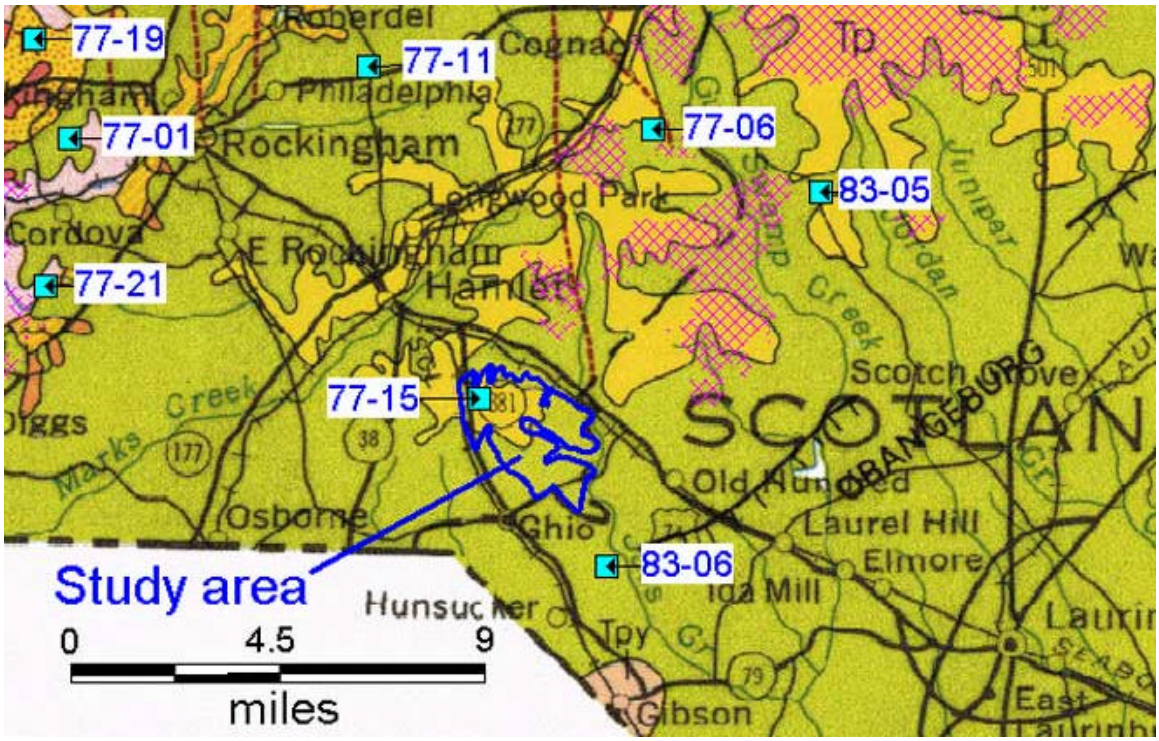

Figure 8. Map showing the distribution of Pinehurst Formation relative to the North Carolina Game Land (violet ruled lines) and other permitted mines. The site footprint is shown in dark blue. The five permitted mines visible in this view are: 77-06 – Unimin's Marston Plant, 83-05 – Morgan Sand Mine, 83-06 – Mudd Land Mine, 77-15 – Hamlet Plant, and 77-11 – Southeastern Sand and Clay Pit. The 1985 Geologic Map of North Carolina serves as the base.

Most of the silica sand consumption in the United States goes toward making glass containers and flat pieces of glass used for windows. Silica sand is also used for the manufacture of fiberglass and specialty glass. Non-glass applications for silica sand include foundry, refractory, and metallurgical purposes, chemical production, abrasives, and hydraulic fracturing. Recent data shows that silica sand sells for $8-$25 per ton, depending on the quality and location of the site (Harben, 1999, p.190). Maximum profit could depend on nearby transportation such as railroads, and road access. Silica sand should not be shipped great distances to minimize cost (Brady and Clauser, 1977, p. 671). The proximity of the Pilkington glass plant in Laurinburg, North Carolina, readily available rail and truck access to that plant or the Port of